THYLACOPTERIS PAPILLOSA (BL.) KUNZE EX J. SMITH (POLYPODIACEAE) —A NEW RECORD FOR INDIA, WITH NOMENCLATURAL NOTES

Thylacopteris papillosa (Bl.) Kunze ex J. Sm. (1875) is based on *Polypodium papillosum* Bl. (1828) from Java. Although Holttum (1955) considered the species as belonging to the genus *Polypodium* L., he (1973) treated it under *Thylacopteris* Kunze ex Mett., following presumably Copeland (1947) and Pichi Sermolli (1965) and considered the genus as comprising two species restricted in distribution to Malayasia. *Thylacopteris* J. Sm. is distinguished from *Polypodium* L. by its slender rhizome with very numerous strands of black sclerenchyma and bearing remote membranous fronds; veins free, forked only once in the pinna lobes; sori only in one row, deeply immersed on the vein endings; spores bilateral and smooth.

Although Mettenius (1857) cited *Thylacopteris* Kunze as a synonym under both *Polypodium papillosum* Bl. and *P. obliquatum* Bl., the genus was not described until J. Smith (1875) provided the description and made the combination *T. papillosa* (Bl.) Kunze ex J. Sm. Holttum's (1973) citation of authority for *Thylacopteris* as 'Kunze ex Mettenius' is not correct. Copeland (1947) made the combination *Thylacopteris diaphana* (Brause) Copeland, based on *Polypodium diaphanum* Brause (1912), *non* Bory (1804) and considered it as doubtfully synonymous with *T. papillosa* (Bl.) Kunze ex J. Sm. Since *Polypodium diaphanum* Brause (1912) is *nom. illeg.* (Art. 64.1. I.C.B.N. 1978), *Thylacopteris diaphana* Copel. must be treated as *nom. nov.* (Art. 72.1. I.C.B.N. 1978).

Blume (1828) and Holttum (1955) distinguished *P. papillosum* Bl. from the only other free-veined species in *Polypodium* L.- *P. vulgare* L., these two, however, are now being treated as belonging to distinct genera.

Beddome (1892) reported *P. papillosum* Bl. from Perak (1220 m) and Holttum (1955) described and illustrated the plants from Malaya as growing on the moist rocks by the streams in the shade of forests in lowlands to 500 m. The specimen *Panigrahi* and *Joseph* 16894 collected during the Botanical tour to the Tirap Frontier Division, Arunachal Pradesh in August 1958 is identified here with *Thylacopteris papillosa* (Bl.) Kunze ex J. Smith. We, therefore, take this opportunity to describe and illustrate the taxon, not only as a new record of species but as a new record of the genus—*Thylacopteris* Kunze ex J. Sm., for India.

Thylacopteris Kunze ex J. Sm. Hist. Fill. 87. 1875, TYPE SPECIES: *T. papillosa* (Bl.) Kunze ex J. Sm. *l.c.* (=*Polypodium papillosum* Bl. Enum. Pl. Jav. 131. 1828 et Fl. Jav. Fil. 191. t. 89A. 1851).

Thylacopteris papillosa (Bl.) Kunze ex J. Sm. Hist. Fill. 87-88. 1875; Christensen, Ind. Fill. 633. 1906 *pro syn*; Copeland, Gen. Fil. 181. 1947. *Polypodium papillosum* Bl. Enum. Pl. Jav. 131. 1828 et Fl. Jab. Fil. 191. t. 89A. 1851; Baker in Hook. & Bak. Syn. Fil. 332. 1868; Beddome, Handb. Suppl. 88. 1892; Holttum, Fl. Malaya 2: 203. fig. 104. 1955. *P. papillosum* Bl. var. *β* Bl. *l.c.* 192. t. 89B. 1851.

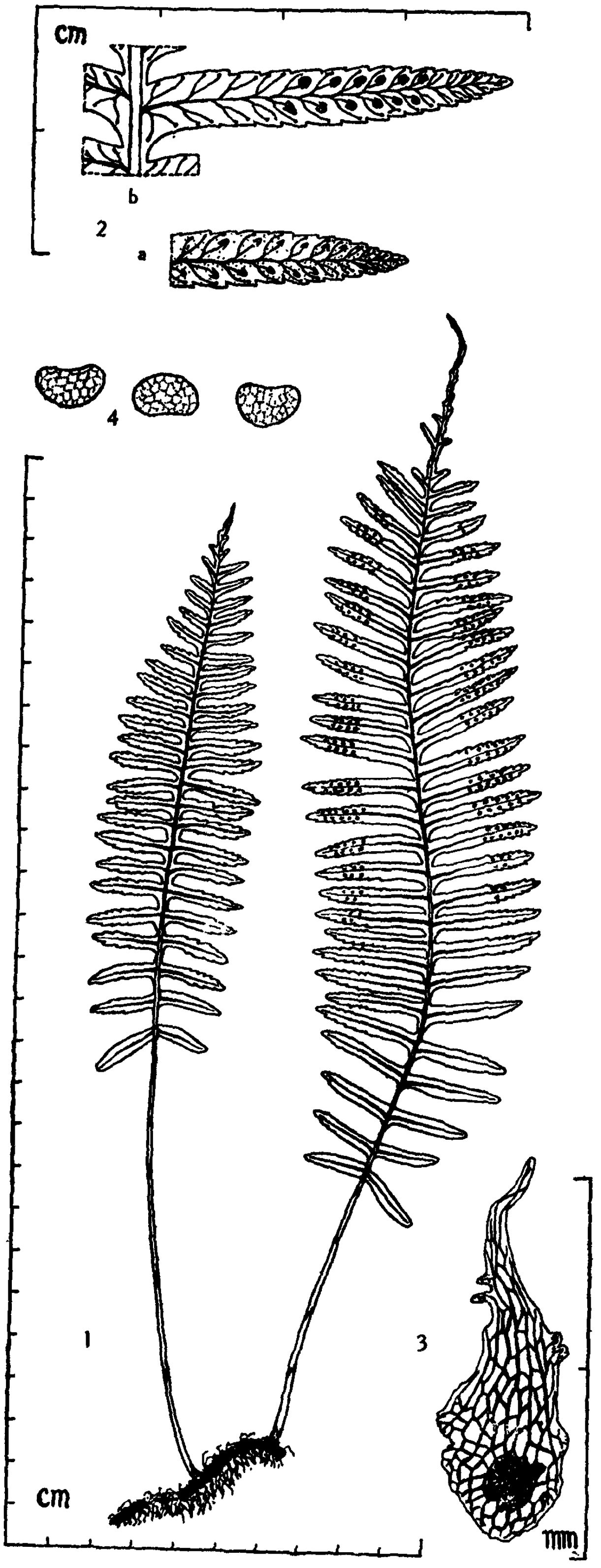
TYPE: Java "crescit in sylvis montanis ad arbores" *Blume s. n.* (L.).

Rhizome creeping, slender, *ca* 2 mm across, paleaceous, with many sclerenchymatous strands. *Paleae* up to 3 mm long, 1.5 mm wide, peltate, ovate to ovate-lanceolate, accute (-acuminate), sub-entire or toothed, heterotoechae, brown, concolorous, on rhizome only. *Fronds* up to 30 cm long, 6.5 cm broad, *ca* 2 cm apart, non-articulate. *Stipe* up to 11 cm long, straminous on drying, glabrous, shining, rachis on the upper surface bearing small, brown, club-shaped trichomes. *Lamina* up to 22 cm long, 6.5 cm broad, lanceollate or oblong, pinnatisect at base, becoming pinnatifid upwards, caudate acuminate; lobes *ca* 28 pairs below the caudate apex; basal lobes truncate or deflexed faintly, lobes up to 3 cm long, 5 mm broad, subulate or oblong, basal pinnae decurrent, apical lobe 3/4 crenate, apex obtuse, upper surface minutely papillose, lower not so much; veins free, once-forked, ending before margin into a wide hydathode, herbaceous, pale green. *Sori* round, terminal on the veins, immersed, groove 'C' shaped, protrude on the dorsal side as a small papillae or button-like; paraphyses absent. *Spores* 44-48 × 24-28 μ m, bilateral, hyaline, alveolate, smooth.

Specimen examined: India, Arunachal Pradesh, Tirap District, Wakka, 1600 m, 27th August, 1958, *G. Panigrahi* and *J. Joseph* 16894 (ASSAM).

An epiphytic rare fern.

We have examined a number of specimens from Malaya, Java and the Philippines in CAL and located intergrading forms between the type variety and var. β Bl. (1828).



Thylacopteris papillosa (Bl.) Kunze ex J. Smith
Figs. 1-4 : 1. Habit. 2. Frond lobes : a. upper surface. b. lower surface. 3. Rhizome palea. 4. Spores. (Drawn from *Panigrahi & Joseph* 16894)

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CASSIA UNIFLORA MILL. (CAESALPINIACEAE)—A NEW RECORD FOR INDIA

During the year 1979, an interesting species of *Cassia* L. growing as a weed in Pune (Maharashtra) was collected by Mr. P. A. Gurav, a student of Dr. Birardar, University of Pune and sent to Kew for identification. This was determined as *C. uniflora* Mill., a New World species and communicated to him as a new record from India. This species is common in Jamaica, Bahamas, Cuba, El Salvador, Venezuela and tropical America in general, but not known to occur in Asia. From the recent enquiries received at Kew, it is apparent that the species is slowly spreading in peninsular India as well. To facilitate identification, a brief description is given below giving full citations and synonyms.

Cassia uniflora Mill. Gard. Dict. ed. 8. 1768 (*non* Spreng. 1820). *C. sericea* Swartz, Prodr. 66. 1788 *et* Fl. Ind. Occ. 724. 1788. *C. sensitiva* Jacq. Coll. 2: 362. 1788 *et* Ic. Pl. Rar. 3: t. 459. 1791. *Sericeocassis uniflora* (Mill.) Britton in N. Amer. Fl. 23 (4): 246. 1930.

Holotype: Campechy (West Indies), *Houstoun* in 1730 (BM).

Annual woody at base, 15-120 cm tall; stem angled, twigs, leaves and inflorescence appressed villous with brownish or yellow silky hairs. Stipules linear, bristle like, 6-10 mm long, persistent. Leaves 6-12 cm long, pinnate; leaflets 3-4 (5) pairs, topmost largest; glands slender, stalked, awl-shaped occurring between the lowest or all pairs of leaflets; petiolules 0.5-2 mm long; lamina chartaceous, oblong, obovate or elliptic, 2.5-4.5 × 1.2-2.3 cm, sparsely hairy or glabrate above, appressed silky brown pubescent below, apex acute and mucronate, rounded or narrow at base, margins pubescent. Inflorescence few flowered short axillary raceme, peduncles as long as petioles. Flowers yellow, subsessile, small. Sepals 5, nearly orbicular, 4-6 mm long. Petals 5, obovate, prominently veined, 6-10 × 4-6 mm. Stamens 10, of which 7 are fertile, and 3 as staminodes; filaments 1-1.5 mm long; anthers basifixed opening by terminal pores. Ovary silky pubescent. Pod linear, brown, 3-6 pods crowded on a short stalk, 2.8-4.5 cm × 3-3.5 mm, reddish brown or yellow pubescent, 6-10 septate and transversely dehiscent; seeds 6-10, brown, glabrous, 2.5-3.5 × 1.5-2.5 mm more or less rectangular or truncate.

Weed of wastelands; flowering and fruiting during post monsoon; infrequent.

Pune, *Gurav* s. n. (CAL).

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